RECLAMATION

*Managing Water in the West*

**Environmental Assessment**

# Greenville Rancheria Water Resource Development Project

## Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitment to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

# Contents

# List of Acronyms, Abbreviations, and Definition of Terms

| | |
|---|---|
| APE | Area of Potential Effect |
| ARRA | American Recovery and Reinvestment Act |
| ASME | American Society of Mechanical Engineers |
| CEQ | Council on Environmenal Quality |
| CFR | Code of Federal Regulations |
| DWR | Department of Water Resources |
| EA | Environmental Assessment |
| EPA | Environmental Protection Agency |
| gpm | gallons per minute |
| GHG | Greenhouse Gas Emission |
| IPC | International Plumbing Code |
| ITA | Indian Trust Assets |
| MBTA | Migratory Bird Treaty Act |
| NEC | National Electrical Code |
| NHPA | National Historic Preservation Act |
| NRHP | National Register of Historic Places |
| PNF | Plumas National Forest |
| PVC | polyvinyl chloride |
| Rancheria | Greenville Rancheria |
| Reclamation | Bureau of Reclamation |
| SHPO | State Historic Preservation Officer |
| THPO | Tribal Historic Preservation Office |
| USFWS | U.S. Fish and Wildlife Service |

# Section 1 Purpose and Need for Action

## 1.1 Introduction

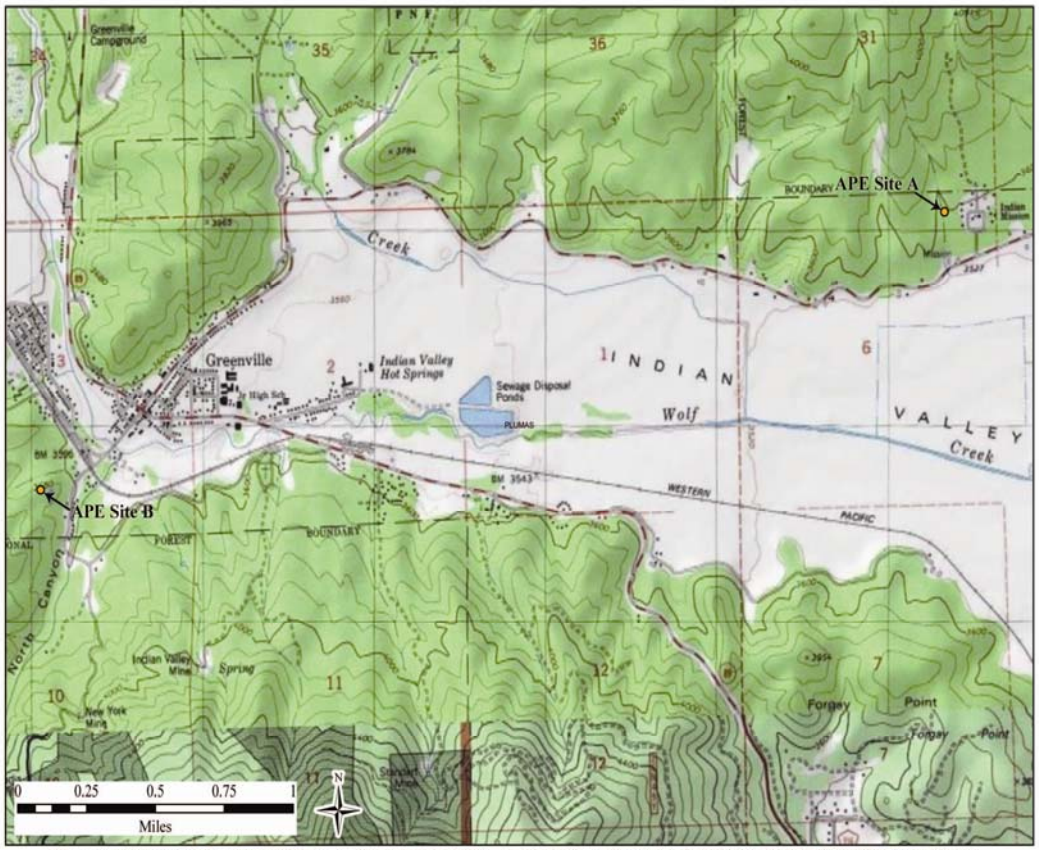
Pusuant to the Bureau of Reclamation (Reclamation) States Emergency Drought Relief Act of 1991, as amended (Drought Act), and other authorities, Reclamation is planning to use $40 million from the American Recovery and Reinvestment Act (ARRA) to fund emergency drought relief projects that can quickly and effectively mitigate the consequences that have resulted from drought conditions in California.

2009 was the third consecutive year of drought conditions in the State of California. Governor Schwarzenegger declared a drought emergency for the entire state. The Greenville Rancheria (Rancheria) Tribe is suffering from the prolonged drought and experiencing severe effects to the health and safety of Tribal members. In compliance with Section 104 of the Drought Act, the Tribe has declared a drought emergency and has requested Reclamation's assistance for the purpose of installing and developing two community groundwater wells (Figure 1) to provide a dependable source of drinking water for the Community of Greenville and the Rancheria.

The Tribe is a Federally Recognized Native American Tribe located in Plumas County, California. Due to the Tribal Termination Era of the 1950s, many parcels within the Rancheria were lost to non-native persons, many to non-payment of back taxes. As the Tribe was re-established in the 1980s, the Rancheria is now a growing population in need of developing former lands to house and form a strong community for the Native population. Currently the Rancheria Water System serves 12 homes (approximately 25 persons) on a year round basis. The Tribal residents that reside on the Rancheria still utilize their original drinking water system (combination of groundwater well and spring source) that once fed the school and surrounding buildings; however, the existing well is fairly shallow and the spring source is known to dry up completely during drought years.

Many other Tribal members choose to live within the Community of Greenville, CA. The Greenville Community Water System receives water from the Round Valley Reservoir located on a steep hillside above the town and from a groundwater well (600 feet deep) that produces approximately 60 gallons per minute (gpm). This system serves approximately 571 homes (1,160 persons), the Indian Health Clinics, and the main Rancheria office. The Greenville Community Water System is a low-producing sole source which has resulted in severe water shortages during times of drought and water quality issues during winter and spring rain events.

The Proposed Action would provide both the Rancheria and the Community of Greenville an alternative source of dependable drinking water which would aid in reducing potential health risks associated with their current operations.




The area of potential effects (APE) is located in sec. 6, T. 26 N., R. 10 E. (Site A) and sec. 3, T. 26 N., R. 9 E. (Site B), Mount Diablo Meridian, as depicted on the Greenville 7.5' USGS topographic quadrangle map. Scale 1:24,000.

***Figure 1 – Proposed Action area***

## 1.2 Purpose and Need

In response to the ongoing drought and the Tribe's request for assistance, Reclamation proposes to provide ARRA funding for the installation and development of two community drinking wells; one on the Rancheria and one in the Community of Greenville, CA. The purpose of the Proposed Action is to provide an alternative dependable source of drinking water to the Rancheria and to the Community of Greenville to reduce potential health risks associated with their current operations. The Rancheria residents of today still utilize their original drinking water system (combination of well and spring source) that once fed their school and surrounding buildings; however, the existing well is fairly shallow and the spring source is known to dry up completely during drought years. The Community of Greenville currently recieves their drinking water from the Greenville Community Water System which is a low-producing sole source that results in severe water shortages during times of drought and

water quality issues during winter and spring rain events. The Rancheria and the Community of Greenville are in need of an alternative source of dependable drinking water to reduce potential health risks associated with their current operations.

## 1.3 Potential Resource Issues

The resource areas listed below have the potential to be affected by the Proposed Action and are discussed in Sections 3.1 through 3.10.

- Surface Water Resources
- Groundwater Resources
- Geology and Soils
- Land Use
- Biological Resources
- Cultural Resources
- Indian Trust Assets
- Environmental Justice
- Climate Change
- Cumulative Impacts

## 1.4 Resources Not Analyzed in Detail

Based on review of the Proposed Action, it was determined that the Proposed Action would not impact the following resources: water quality, recreation, air quality, visual, transportation, noise, hazards and hazardous materials, and socioeconomics. Hence, impacts to these resources are not analyzed in this environmental assessment (EA).

# Section 2 Alternatives Including Proposed Action

## 2.1 No Action Alternative

The No Action Alternative would include Reclamation not providing funding to the Tribe to install and develop two community wells to provide an alternative source of water on the Rancheria and the Greenville community. Under this alternative, the Rancheria would continue with their current source of water which results in potential health issues to the Tribe and the Greenville community.

## 2.2 Proposed Action Alternative

The Proposed Action Alternative would include ARRA funding from Reclamation for the construction of two community drinking wells; one located east of Greenville on the Rancheria Property and one located in the Community of Greenville.

**Rancheria Site**

The Rancheria Site is located in Sec. 6, T. 26 N., R. 10 E, Mount Diablo Meridian, Greenville 7.5' USGS topographic quadrangle. The Rancheria Site would include an approximate 10,000-square foot area located in a rural residential housing development within the mixed conifer pine forest interface on the north margin of Indian Valley (Figures 2 and 3).

The well at the Rancheria Site would be drilled to a depth of 400 feet and would provide 40 gpm of water for domestic use. The construction of the well and associated distribution systems would comply with California's Department of Water Resources (DWR) well standards, National Electrical Code (NEC) standards, American Society of Mechanical Engineers (ASME) standards and International Plumbing Code (IPC). The Proposed Action would include the following steps:

1) *Construction of the well*

- Drill a nominal 16 inch diameter hole from 0 to 50 feet; install and grout 12 inch diameter steel conductor casing from 0 to 50 feet.
- Drill a nominal six inch diameter pilot hole from 50 to 400 feet and geophysically log the drill hole.
- If a sufficient quantity of water is determined then the pilot hole would then be reamed to a nominal 10 inch diameter to a depth of 50 to 500 feet. If a sufficient quantity is not available then the decision of drilling deeper or abandonning the well will be made by the contracting officer's representative. If abandoned the pilot hole would be sealed according to DWR's well standards.
- Install 6 inch diameter screen or perforated casing with a 10 foot long blank sump and end cap attached to the bottom from approximately 290 to 400 feet deep (110 feet long including sump).

- Install 6 inch diameter blank casing from the top of the screened interval to the surface.
- Install filter pack from the bottom of the drill hole to the bottom of the conductor casing.
- Install bentonite and grout plug to seal from top of filter pack to surface.
- Conduct 24 hour minimum pump test or other appropriate pump tests depending on groundwater conditions, including eight hours of recovery.
- Furnish and install a submersible pump capable of delivering sustainable yield as determined from the pump test, motor, controller, drop pipe, sounding tube and related infrastructure necessary for the operation of the well.
- Perform water quality tests by an Environmental Protection Agency (EPA) certified laboratory. The water sample would be collected after the well was pumped long enough to ensure that water from the producing formation has entered the well.
- Construct a minimum 4 inch thick concrete pad around the well head that extends at least two feet laterally in all directions.

*2) Power Connection*

- Furnish and install one weather head to new well house for power company to attach directly to the well house.
- Furnish and run wire from weather head into well house and through the meter and circuit breaker enclosure.
- Furnish and install one meter enclosure on exterior of well house.
- Furnish and install one National Electrical Manufactures Association 3R, 20 Amp/3 Pole Circuit Breaker Enclosure and circuit breaker.
- Furnish and install American Wire Gauge wire necessary to meet all pump loads and connect from electrical service to meter, breaker, and pump.
- Furnish and install necessary conduit and wire for light and receptacle to be in well house.

3) *Installation of a Hydro Pheumatic Tank and Chlorination System*

- Furnish and install a 500 gallon (at minimum) hydro pneumatic tank. The dimensions of the tank would allow for installation after the well house was constructed.
- Furnish and install a five gallon (at minimum) tank for liquid sodium hypochlorite.
- Furnish and install a metering pump that would be capable of creating four parts per million chlorine solution to meet federal drinking water standards.
- Furnish and install all hosing necessary to meter liquid sodium hypo chlorite.

*4) Construction of well house*

- Pour an 8 x 10 foot concrete foundation that would be eight inches thick.
- Install A98 steel mesh that would have a minimum of two inches of top cover (not exceeding three inches below the top of the concrete slab).

- Install (at minimum) three J bolts on each side of the structure to the concrete foundation.
- Construct an eight foot wide, 10 foot high enclosure to protect the hydro pneumatic tank and chlorination system.

*5) Water Connection*

- Excavate a utility trench three feet deep, six inches wide and approximatedly 750 feet long.
- Extend a four inch polyvinyl chloride (PVC) line out of the well house and turn underground. Construct new waterline out of Schedule 40 PVC with solvent-welded joint couplings.
- Furnish and install connection into the existing tank.

**Greenville Site**

The Greenville Site B is located in Sec. 3, T. 26 N., R. 9E, Mount Diable Meridain, Greenville 7.5' USGS topographic quadrangle. The Greenville Site would include an approximate 26,000-square foot area located within the existing Greenville community water system complex near the existing storage tanks (Figures 4 and 5).

The well at the Greenville Site would be drilled to a depth of 600 feet and would provide 60 gpm of water for domestic use. The construction of the well and associated distribution systems would comply with DWR's well standards, NEC standards, ASME standards and IPC. The Proposed Action would include the following steps:

*1) Construction of the well*

- Drill a nominal 18 inch diameter hole from 0 to 50 feet; install and grout 14 inch diameter steel conductor casing from 0 to 50 feet.
- Drill a nominal 6 inch diameter pilot hole from 50 to 600 feet and geophysically log the drill hole.
- If a sufficient quantity of water is determined then the pilot hole would then be reamed to a nominal 12 inch diameter to a depth of 50 to 600 feet. If a sufficient quantity is not available then the decision of drilling deeper or abandonning the well will be made by the contracting officer's representative. If abandoned the pilot hole would be sealed according to DWR's well standards.
- Install 8 inch diameter screen or perforated casing with a 10 foot long blank sump and end cap attached to the bottom for approximately 490 to 600 feet deep (110 feet long including sump).
- Install 8 inch diameter blank casing from the top of the screened interval to the surface.
- Install filter pack from the bottom of the drill hole to the bottom of the conductor casing.
- Install bentonite and grout plug to seal from top of filter pack to surface.
- Conduct 24 hour minimum pump test or other appropriate pump tests depending on groundwater conditions, including eight hours of recovery.

- Furnish and install a submersible pump capable of delivering sustainable yield as determined from the pump test, motor, controller, drop pipe, sounding tube and related infrastructure necessary for the operation of the well.
- Perform water quality tests by an EPA certified laboratory. The water sample would be collected after the well was pumped long enough to ensure that water from the producing formation has entered the well.
- Construct a minimum 4 inch thick concrete pad around the well head that extends at least two feet laterally in all directions.

*2) Power Connection*

- Excavate a utility trench three feet deep, six inches wide and approximately 100 feet long. The trench will begin at the existing well and will extend to the new well house to be connected to existing panel.
- Install rigid galvanized steel conduit from the panel to outside the well house and turn underground.
- Lay 100 feet of ¾ inch electrical conduit to the new well and connect into the liquid tight flexible metal conduit that runs to the motor.
- Furnish and install AWG wire necessary to meet all pump loads and connect from existing panel to new pump through installed electrical conduit.
- Proper backfilling methods would be followed to protect the conduit.

3) *Installation of Tank and Chlorination System*

- Furnish and install a five gallon (at minimum) tank for liquid sodium hypochlorite.
- Furnish and install a metering pump that would be capable of creating four parts per million chlorine solution to meet federal drinking water standards.
- Furnish and install all hosing necessary to meter liquid sodium hypo chlorite.

*4) Construction of well house*

- Pour a 4 x 4 foot concrete foundation that would be eight inches thick.
- Install A98 steel mesh that would have a minimum of two inches of top cover (not exceeding three inches below the top of the concrete slab).
- Install (at minimum) three J bolts on each side of the structure to the concrete foundation.
- Construct a four foot wide, four foot long, and eight foot high enclosure to protect the chlorination system.

*5) Water Connection*

- Excavate a utility trench three feet deep, six inches wide and approximatedly 50 feet long that will extend from the well house to the existing water storage tank.
- Extend a four inch PVC line out of the well house and turn underground. Construct new waterline out of Schedule 40 PVC with solvent-welded joint couplings.
- Water line would be flushed to ensure that the water would be suitable for domestic use.

- Furnish and install connection into the existing tank.

Power would be provided to the proposed wells by the local utility company. The proposed well sites would be accessed from paved and graveled roads and residential driveways. The proposed project area would serve as the staging area for all aspects of construction activities. No vegetation removal would be required.

***Figure 2 –Rancheria Site - looking North***

***Figure 3 – Rancheria Site – looking South***

***Figure 4 –Greenville Site B – looking North***

***Figure 5 –Greenville Site B – looking South***

# Section 3 Affected Environment & Environmental Consequences

The Rancheria and the Community of Greenville are within the Upper Feather River Watershed which is located in the Indian Valley Groundwater Basin in Plumas County, California. Plumas County is located where the Sierra Nevada and Cascade mountain ranges meet. The Plumas National Forest, which is predominantly Sierra Mixed Conifer habitat, surrounds the Rancheria and the Community of Greenville. The elevation at the Proposed Action area is approximately 3,570 feet, with an annual precipitation of 25 to 40 inches (rain and snow). The Proposed Action area has a typical four-season climate. The temperature varies with the season from an average low of 20 to an average high of 80 degrees Fahrenheit.

## 3.1 Surface Water Resources

### 3.1.1 Affected Environment

The Proposed Action area is located within the Upper Feather River Watershed. The Upper Feather River Watershed encompasses 3,500 square miles. The surface water resources within the Proposed Action area are Wolf Creek and the Round Valley Reservoir. The Greenville Community Water System is supplied by the Round Valley Reservoir and a 600 foot deep well. The Round Valley Reservoir is located three miles above Greenville on a steep hillside in the Crescent Mills USGS quadrangle and has a length of 2.8 miles. The altitude for this reservoir is 4,469 feet (1,362 meters). There is a natural spring on the Rancheria that they utilize as a water source though it often dries up during drought conditions.

### 3.1.2 Environmental Consequences

*No Action*

Under the No Action Alternative, the Tribe would not install two community drinking wells to provide an altervative source of water to the Rancheria and the Community of Greenville. Under the No Action Alternative, surface water use would not increase or decrease and, therefore, would have no significant impacts to surface water.

*Proposed Action*

Under the Proposed Action, Reclamation would provide funding under ARRA for the purposes of installing and developing two community drinking wells to provide a dependable source of water to the Rancheria and the Community of Greenville. The Greenville Community Water System is a low-producing sole source which has resulted in severe water shortages during times of drought and water quality issues during winter and spring rain events. With the addition of a secondary groundwater well at the same or greater yield as their current groundwater well the Community of Greenville would reduce their amount of surface water consumption by more than 30 to 35 million gallons per year (approximately 1/3 of their current use). The Rancheria residents do rely on a natural spring source though it often dries up during drought conditions and therefore is

not a dependable source of water. The Proposed Action would not increase surface water resources in the project area and in fact would decrease the amount of surface water withdrawn from the Round Valley Reservoir to be utilized by the community therefore benefiting surface water resources in the project area. The Proposed Action would not result in short-term or long-term significant impacts to surface water or the resources dependent on surface water.

## 3.2 Groundwater Resources

### 3.2.1 Affected Environment

The Rancheria and the Community of Greenville are located in the Indian Valley Groundwater Basin (#5-9) in Plumas County. The Indian Valley Groundwater Basin has a surface area of 29,400 acres and is irregular shaped. The basin is bounded by Paleozoic to Mesozoic marine, volcanic, and metavolcanic rocks. The basin includes Genessee Valley, Indian Valley, and Bucks Valley. Indian Creek flows south and drains the basin at the southwest corner (DWR 2004).

The estimated storage capacity is approximately 100,000 acre-feet and a saturated depth interval of 10 to 210-feet. Groundwater extraction for municipal and industrial uses is estimated to be 100 acre-feet. Deep percolation of applied water is estimated to be 2,600 acre-feet (DWR 2004).

### 3.2.2 Environmental Consequences

*No Action*

Under the No Action Alternative, the Tribe would not install two community drinking wells to provide an altervative dependable source of water to the Rancheria and the Community of Greenville. Under the No Action Alternative, the Rancheria and the Community of Greenville would carry on with their current operations. Groundwater resources would not be affected.

*Proposed Action*

Under the Proposed Action Alternative, Reclamation would provide funding under ARRA for the purposes of installing and developing two community drinking wells to provide an alternative dependable source of water to the Rancheria and the Community of Greenville. Currently the Rancheria water system serves 12 homes and approximately 25 persons on a year round basis. The Rancheria residents of today still utilize the original water system (combination of well and spring source) that once fed the school and surrounding buildings; however, the existing well is fairly shallow (approximately 100 feet) and the spring source is known to dry up completely during drought years which poses a potential health risk/threat to all residents that utalize the system.

Reports from other well records in the immediate vicinity indicate excellent water pressure at a 300 foot depth because they have dropped below a "hard pan" layer that the existing Rancheria well does not penetrate. Adding an additional well at greater depths (400 feet) along with an additional pressure tank would ensure the viability of a dependable water source (40 gpm) to be utilized on the Rancheria.

The Community of Greenville recieves water from the Round Valley Reservoir and a groundwater well which produces 60 gpm. With the addition of a second groundwater well at the same or greater yield as their current groundwater well the Community of Greenville would reduce their amount of surface water consumption by more than 30 to 35 million gallons per year (approximately 1/3 of their current use). The additional dependable water source for both the Rancheria and the Community of Greenville would aid in reducing health risk associated with their current systems. The estimated storage capacity of the Indian Valley Groundwater Basin is approximately 100,000 acre-feet and a saturated depth interval of 10 to 210-feet. Groundwater extraction for municipal and industrial uses is estimated to be 100 acre-feet. The additional amount of groundwater that would be utalized under the Proposed Action is minute when compared to the amount of groundwater storage available and therefore the Proposed Action would not result in significant effects to groundwater in the Indian Valley Groundwater Basin.

## 3.3 Geology and Soils

### 3.3.1 Affected Environment

The Proposed Action area is located within the Greenville subsection M261Ed of the Sierra Neveada ecological sections and extends from the northwestern edge of the Sierra Neveda along the Plumas Trough to Mohawk Valley. The Plumas trough consists of steep mountains and moderately steep hill slopes with moderately extensive alluvial fans, floodplains, terraces, and basin floors. The Plumas trough is an active northwest trending tectonic zone that separates the main part of the Sierra Nevada on the southwest from the block faulted part of the Sierra Nevada on the northeast. The elevation ranges from about 2,500 feet along the Feather River up to 6,341 feet on Red Hill and 6,362 feet on Rush Creek Hill. Faulting, mass wasting, and fluvial erosion and deposition are the main geomorphic processes.

Two soils are represented in the proposed project area. The lower flatter valley areas are underlain by forgay, very gravelly sandy loam, on 2 to 5 percent slopes. Forgay soils are somewhat excessively drained and have a low water holding capacity. Their erosion hazard is slight. Their parent material is alluvium derived from lakebed sediments. The foothill slopes are underlain by Holland, basic-Skalen-Kinkel family's complex on 4 to 45 percent slopes. Holland family and similar soils are well drained, have a high water holding capacity and severe erosion hazard. Their parent material is residuum weathered from gabbro. Maximum soil depth is 64 inches, with a restrictive feature of paralithic bedrock.

### 3.3.2 Environmental Consequences

*No Action*

Under the No Action Alternative, The Tribe would not install and develop two community drinking wells to provide an altervative dependable source of water to the

Rancheria and the Community of Greenville resulting in no adverse impacts to geology or soils.

*Proposed Action*
Under the Proposed Action Alternative, Reclamation would provide funding under ARRA for the purposes of installing and developing two community drinking wells to provide an alternative dependable source of water to the Rancheria and the Community of Greenville.

The Proposed Rancheria well site would be located on pre-disturbed land and no additional vegetation would need to be removed (Figures 2 and 3). The slopes at the site vary though the placement of the well would be located in an area with a minimal slope and therefore would not pose an erosion problem. In addition, the area that would be disturbed during installation of distribution systems would be temporary and returned to the existing conditions following the completion of construction activities.

The Proposed Greenville well site would also be located on pre-disturbed land and would not include additional vegetation removal (Figures 4 and 5). The slopes at the Greenville well site are zero to two percent and do not pose an erosion problem. In addition the area that would be disturbed during installation of distribution systems would be temporary and returned to the existing conditions following the completion of construction activities. The Proposed Action would not result in short-term or long-term significant impacts to geology or soils.

## 3.4 Land Use

### 3.4.1 Affected Environment

The Rancheria and the Community of Greenville are within the Upper Feather River Watershed which is located in Plumas County, California. Plumas County is located where the Sierra Nevada and Cascade mountain ranges meet. The entire Rancheria is in within the Sierra Mixed Conifer forest. The Proposed Action area is forested except for the small bare areas (less than one acre) around residents' homes. The Community of Greenville has a museum, hospital, doctors, dentist, pharmacy, elementary, middle and high school, county library, sheriff's substation, U.S.F.S. work center, volunteer fire department, and numerous churches, clubs and organizations. In addition to forested land, the Rancheria consists of the Old Mission and Tribal housing. The combined area of potential effect (APE) of both wells would total approximately 0.8 acres.

### 3.4.2 Environmental Consequences

*No Action*
Under the No Action Alternative, The Tribe would not install and develop two community drinking wells to provide an altervative dependable source of water to the Rancheria and the Community of Greenville. Land use would not change under the No Action Alternative.

*Proposed Action*
Under the Proposed Action Alternative, Reclamation would provide funding under ARRA for the purposes of installing and developing two community drinking wells to provide an alternative dependable source of water to the Rancheria and the Community of Greenville. The Proposed Action would not result in land use changes and therefore, the Proposed Action would not result in short-term or long-term significant impacts to land use in the project area.

## 3.5 Biological Resources

### 3.5.1 Affected Environment

The Plumas National Forest (PNF) surrounds the Proposed Action area. The PNF is predominantly Sierra Mixed Conifer habitat which is an assemblage of conifer and hardwood species that forms a multilayered forest. Five conifers and one hardwood typify the mixed conifer forest: white fir, Douglas-fir, ponderosa pine, sugar pine, incense-cedar, and California black oak. In all, over 100 species of grasses, forbs and shrubs contribute to the flora of the mixed conifer habitat and support a wide variety of wildlife.

*Potentially Affected Special-Status Species for the Greenville Rancheria Area*
The California Natural Diversity Database (CNDDB) and U.S. Fish and Wildlife Service (USFWS) websites were reviewed for the potential occurrences and/or habitat associated with special-status species in the Greenville USGS 7.5-minute quadrangle on June 29, 2010. The following table includes special-status species that could potentially occur within the Proposed Action area.

**Table 1: Special-Status Species Identified as Potentially Occurring in the Greenville USGS 7.5-minute Quadrangles**

| Species Name | Status Fed/State | Habitat | Habitat and/or Occurances in Proposed Action Area |
|---|---|---|---|
| **FISH** | | | |
| delta smelt *Hypomesus transpacificus* | T/E | Native to Sacramento-San Joaquin estuary though have been found in the Sacramento River as far upstream as the confluence with the American River | No |
| tidewater goby *Eucyclogobius newberryi* | E/- | Coastal lagoons and the uppermost brackish zone of larger estuaries, rarely invading marine or freshwater habitats. | No |
| Central Valley spring-run | T/ST | "anadromous" fish, | No |

| | | | |
|---|---|---|---|
| chinook salmon<br><br>Winter-run chinook salmon, Sacramento River<br><br>*Oncorhynchus tshawytscha* | E/SE | migrating upstream to spawn in freshwater streams, and migrating downstream to the ocean to grow and mature. | |
| **AMPHIBIANS** | | | |
| California red-legged frog<br>*Rana draytonii* | T/- | Permanent and semipermanent aquatic habitats, such as creeks and coldwater ponds, with emergent and submergent vegetation. May aestivate in rodent burrows or cracks during dry periods | No |
| **MAMMALS** | | | |
| fisher<br>*Martes pennanti* | C/SSC | North coast coniferous forest/Oldgrowth/ Riparian forest | No occurances within a four mile radius of the proposed project area |
| **BIRDS** | | | |
| bald eagle<br>*Haliaeetus leucocephalus* | -/SE | Lower montane coniferous forest/Oldgrowth | No occurances within a six mile radius of the proposed project area |
| willow flycatcher<br>*Empidonax traillii* | -/SE | Meadow and seep/Riparian scrub/Riparian woodland/Wetland | No occurances within a two mile radius of the proposed project area |
| greater sandhill crane<br>*Grus canadensis tabida* | -/ST | Marsh and swamp/ Meadow and see/Wetland | No |
| northern goshawk<br>*Accipiter gentilis* | -/SSC | North coast coniferous forest/Subalpine coniferous forest/Upper montane coniferous forest | No occurances within a five mile radius of the project area |
| **PLANTS** | | | |
| Sheldon's sedge<br>*Carex sheldonii* | -/S3 | Freshwater marsh/Lower montane coniferous forest/Marsh and swamp/ Meadow and seep/Riparian woodland/Wetland | No occurances within a two mile radius of the project area |
| Quincy lupine<br>*Lupinus dalesiae* | -/S3.2 | Lower montane coniferous forest/Upper montane coniferous forest | No occurances have been recorded in the project area |
| Follett's monardella<br>*Monardella folletii* | -/S2 | coniferous forest/Ultramafic | No occurances have been recorded in the |

| | | | |
|---|---|---|---|
| | | | project area |
| tall alpine-aster *Oreostemma elatum* | -/S2.2 | Bog and fen/ Meadow and seep/ Upper montane coniferous forest | No occurances within a four mile radius of the project area |

Key:

(PE) Proposed Endangered – Proposed in the Federal Register as being in danger of extinction
(PT) Proposed Threatened – Proposed as likely to become endangered within the foreseeable future
(E) Endangered– Listed in the Federal Register as being in danger of extinction
(T) Threatened – Listed as likely to become endangered within the foreseeable future
(C) Candidate – Candidate which may become a proposed species
(SE) State Endangered – State listed as being in danger of extinction
(ST) State Threatened – State listed as likely to become endangered
(SSC) State Species of Special Concern – CDFG
(S) State Rank – CNDDB
(G) Global Rank – CNDDB
- not listed

### 3.5.2 Environmental Consequences

*No Action*

Under the No Action Alternative, The Tribe would not install and develop two community drinking wells to provide an alternative dependable source of water to the Rancheria and the Community of Greenville. The No Action Alternative would result in no adverse impacts to biological resources.

*Proposed Action*

Under the Proposed Action Alternative, Reclamation would provide funding under ARRA for the purposes of installing and developing two community drinking wells to provide an alternative dependable source of water to the Rancheria and the Community of Greenville. The Proposed Action would not include activities that would be located within, or in close proximity to, waters of the U.S. or their associated riparian habitat and therefore, the Proposed Action would not impact listed fish species or species who inhabitat these areas. The construction activities would be short in duration and the area that would be disturbed during installation of distribution systems would be temporary and returned to the existing conditions following the completion of construction activities. The proposed location for the new wells would be on previously disturbed land and would not include additional vegetation removal resulting in no significant impacts to bird species or their associated habitat utalized for foraging or nesting activities. The CNDDB and USFWS websites were reviewed for the potential occurrence of special-status species. Based on known observations and the absence of suitable habitat, there would be no significant affects to listed species resulting from the Proposed Action (CNDDB, 2010, USFWS, 2010). The Proposed Action would not result in short-term or long-term significant impacts to biological resources in the project area or surrounding area. In addition, due to the Proposed Action area being previously disturbed, no wilderness designations or unique ecosystem, biological community or its inhabitants are expected to be impacted by the project.

## 3.6 Cultural Resources

### 3.6.1 Affected Environment

A cultural resource is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion on the National Register of Historic Places (NRHP). Those resources that are on, or eligible for inclusion on, the NRHP are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 Code of Federal Regulations (CFR) Part 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking would have on historic properties. In summary, Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE) (Figure 2), determine if historic properties are present within that APE, determine the effect that the undertaking would have on historic properties, and consult with the State Historic Preservation Office (SHPO), to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

In an effort to identify historic properties, a Reclamation Archaeologist searched the cultural resources files located at the Bureau of Indian Affairs. Reclamation initiated records search by the Northeastern Information Center in Chico, California on April 26, 2010 for the project area. Reclamation contracted ICF International, who conducted cultural resources surveys of the Project Area on June 30, 2010 (Crawford 2010).

Two cultural resources were identified within the APE at Site A: a mixed historic and modern period refuse scatter (TS-1) and a segment of an unnamed ditch (DS-1). Site TS-1 contains a variety of cans, bottles, and ceramics fragments. Most of the cans are in very poor condition and consist primarily of Olympia pull-top beer cans (1960s or later), large fruit cans, meat and sardine cans, a tobacco tin, and modern sanitary cans. Solarized glass (late 1800s to early 1900s) and small fragments of white improved earthenware are present in smaller quantities. The refuse scatter is distributed over a 100 by 100 feet area and appears to have originated on a higher elevation and scattered down a hill slope behind a currently inhabited house (Crawford 2010:4-1 and Figure 2a).

Reclamation applied the National Register of Historic Places (NRHP) criteria of evaluation at 36 CFR Part 60.4 to site TS-1 and determined that the historic refuse scatter

is not eligible for listing on the NRHP. The historic refuse scatter is a very fragmented collection of artifacts that appear to be deposited in a secondary context. The site lacks integrity since it has been eroded down a slope subsequent to its original discard. These alterations to the refuse deposit diminish the elements of location, design, setting, materials, workmanship, feeling, and association that would have characterized the site at the time it was originally discarded. While the historic refuse is likely associated with the historic pattern of activity of the Greenville Indian Mission and Greenville Indian Industrial Training School, the site itself has no specific characteristics that associate it with such events. Neither the physical characteristics, nor the documented history of Greenville Indian Mission, specifically relate the site to a notable individual or company; therefore, the historic refuse scatter is not eligible for listing on the NRHP under Criteria A or B. The site is located in a secondary context that does not exhibit distinct characteristics of a type, period, or method of refuse disposal and is, therefore, ineligible for listing on the NRHP under Criterion C. The site appears to be a surface manifestation of secondary deposition, where mixed historic period and modern period refuse items have been deposited down slope from the original location of discard; therefore, the historic refuse scatter is not eligible for listing on the NRHP under Criterion D. The site has been recorded in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.

Site DS-1 consists of a V-shaped earthen ditch segment measuring approximately 25-foot long, 5-7 feet wide, and 4.5 feet deep. Some portions of the ditch are lined with rock (3 to 5 courses tall), and other areas are of unlined earth. This ditch segment is bracketed by houses and paved roads. The southwestern end of the recorded ditch segment passes under a wood fence delineating private property; in this location, the fence is supported by a wood 2x4 across the ditch. The northeastern end of the recorded ditch segment consists of a corrugated pipe where the ditch passes under a paved driveway (Crawford 2010:4-1 and Figure 2a).

Reclamation applied the National Register of Historic Places (NRHP) criteria of evaluation at 36 CFR Part 60.4 to site DS-1 and determined that the ditch segment is not eligible for listing on the NRHP. The canal segment lacks integrity of design, materials, workmanship, and feeling. Since its construction, it has been modified by residential and road development over and adjacent to the ditch segment. These alterations to the ditch and the landscape diminish the elements of design and function that would have characterized the canal at the time it was originally constructed. While the ditch is likely associated with the historic pattern of water conveyance associated with the Greenville Indian Mission, the ditch segment itself has no specific characteristics that associate it with such events. Neither the physical characteristics, nor the documented history of water conveyance, specifically relate the ditch to a notable individual or company; therefore, the ditch segment is not eligible for listing on the NRHP under Criteria A or B. The ditch is a simple earthen structure that does not exhibit distinct characteristics of a type, period, or method of construction and is, therefore, ineligible for listing on the NRHP under Criterion C. The nature of ditch construction generally precludes the potential to provide additional information about the canal; therefore, the ditch segment is not eligible for listing on the NRHP under Criterion D. The ditch segment has been

recorded in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.

*Consultation* Reclamation sent a letter to the Greenville Rancheria on May 3, 2010 to invite their assistance in identifying sites of religious and cultural significance pursuant to the regulations at 36 CFR 800.3(f)(2) and 36 CFR Part 800.4(a)(4). Reclamation consulted with the State Historic Preservation Officer (SHPO) on July 28, 2010 regarding a finding of no historic properties affected pursuant to 36 CFR Part 800.4(d)(1). Reclamation also consulted with the Greenville Rancheria on July 29, 2010 on the same basis as the State Historic Preservation Officer pursuant to the regulations at 36 CFR Part 800.3(d) since this project is located on Tribal lands. Concurrence from the SHPO and Greenville Rancheria to conclude the Section 106 compliance process is pending.

### 3.6.2 Environmental Consequences

*No Action*

Under the No Action alternative, Reclamation would not provide funds under ARRA for the purposes of establishing a new well. Conditions related to cultural resources would remain the same as existing conditions. There would be no impacts to cultural resources under the No Action alternative.

*Proposed Action*

The Proposed Action is the type of activity that has the potential to affect historic properties. A records search, pedestrian survey, and Tribal consultation identified two cultural resources: a mixed historic and modern period refuse scatter (TS-1) and a segment of an unnamed ditch (DS-1). Reclamation applied the National Register of Historic Places (NRHP) criteria of evaluation at 36 CFR Part 60.4 to site TS-1 and site DS-1 and determined that neither site is eligible for listing on the NRHP. Since no historic properties would be affected, no cultural resources would be impacted as a result of implementing the Proposed Action. Concurrence from the SHPO and Greenville Rancheria to conclude the Section 106 compliance process is pending.

## 3.7 Indian Trust Assets

### 3.7.1 Affected Environment

Indian Trust Assets (ITAs) are legal interests in property or rights held in trust by the United States for Indian Tribes or individuals. Trust status originates from rights imparted by treaties, statutes, or executive orders. These rights are reserved for, or granted to, tribes. A defining characteristic of an ITA is that such assets cannot be sold, leased, or otherwise alienated without Federal approval.

Indian reservations, rancherias, and allotments are common ITAs. Allotments can occur both within and outside of reservation boundaries and are parcels of land where title is held in trust for specific individuals. Additionally, ITAs include the right to access certain traditional use areas and perform certain traditional activities.

It is Reclamation policy to protect ITAs from adverse impacts resulting from its' programs and activities whenever possible. Types of actions that could affect ITAs include an interference with the exercise of a reserved water right, degradation of water quality where there is a water right or noise near a land asset where it adversely affects uses of the reserved land.

### 3.7.2 Environmental Consequences

*No Action*

Under the No Action Alternative, The Tribe would not install and develop two community drinking wells to provide an altervative dependable source of water to the Rancheria and the Community of Greenville and would not adversely affect ITAs.

*Proposed Action*

Under the Proposed Action Alternative, Reclamation would provide funding under ARRA for the purposes of installing and developing two community drinking wells to provide an alternative dependable source of water to the Rancheria and the Community of Greenville. The Proposed Action would not significantly impact ITAs.

## 3.8 Environmental Justice

### 3.8.1 Affected Environment

Executive Order 12898 requires each Federal agency to achieve environmental justice as part of its mission, by identifying and addressing disproportionately high adverse human health or environmental effects, including social and economic effects, of its programs and activities on minority populations and low-income populations of the United States.

### 3.8.2 Environmental Consequences

*No Action*

Under the No Action Alternative, The Tribe would not install and develop two community drinking wells to provide an altervative dependable source of water to the Rancheria and the Community of Greenville and would continue their current operation resulting in no significant impacts to environmental justice.

*Proposed Action*

Under the Proposed Action Alternative, Reclamation would provide funding under ARRA for the purposes of installing and developing two community drinking wells to provide an alternative dependable source of water to the Rancheria and the Community of Greenville. The Proposed Action would not disproportionately impact economically disadvantaged or minority populations. In fact, the Proposed Action would address existing negative effects upon a minority population and improve the standard of living by providing a water source that is of better quality and dependability then their previous source.

# 3.9 Global Climate Change

## 3.9.1 Affected Environment

On December 7, 2009, the EPA Administrator found that current and projected concentrations of greenhouse gases (GHGs) threaten the public health and welfare. The Council on Environmental Quality (CEQ) also has issued a memorandum providing guidance on the consideration of the effects of climate change and GHG emissions under NEPA (Sutley 2010). The Draft Guidance suggests that the effects of projects directly emitting GHGs in excess of 25,000 tons annually be considered in a qualitative and quantitative manner.

The State of California also has several programs in place that reduce and minimize GHG emissions. The most stringent of these are EO S-3-05 and Assembly Bill 32 (AB 32). EO S-3-05 is designed to reduce California's GHG emissions to: (1) 2000 levels by 2010, (2) 1990 levels by 2020, and (3) 80 percent below 1990 levels by 2050. AB 32 sets the same overall reduction goals as EO S- 3-05 while further mandating that ARB create a plan, which could include market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases."

While these federal and state actions represent important GHG reduction efforts, no specific thresholds have been published for determining NEPA effects related to climate change.

## 3.9.2 Environmental Consequences

*No Action*

Under the No Action Alternative, The Tribe would not install and develop two community drinking wells to provide an altervative dependable source of water to the Rancheria and the Community of Greenville and would have no effect on climate change.

*Proposed Action*

Under the Proposed Action Alternative, Reclamation would provide funding under ARRA for the purposes of installing and developing two community drinking wells to provide an alternative dependable source of water to the Rancheria and the Community of Greenville. Construction activities associated with the Proposed Action would generate short-term emissions of ROG, NOx, CO, PM10, PM2.5, and GHGs. Emissions would originate from mobile and stationary construction equipment exhaust, employee vehicle exhaust, and dust from site grading. GHG emissions from construction activities are primarily the result of fuel use by construction equipment and worker trips. These emissions are minuscule compared to state, national, and federal GHG emissions and would cease once construction activities are complete. Moreover, GHG emissions are more appropriately evaluated on a regional, state, or even national scale rather than on an individual project level. The Proposed Action would not result in significant GHG emissions and therefore would not have an individually discernable effect on global climate change.

## 3.10 Cumulative Effects

The Proposed Action would not result in significant cumulative impacts to surface water resources, groundwater resources, geology and soils, land use, biological resource, ITAs, environmental justice, or global climate change.

# Section 4 Consultation and Coordination

## 4.1 Federal Laws and Executive Orders

The following federal laws were considered during the preparation of this EA and the evaluation of the potential impacts from the Proposed Action.

### 4.1.1 Fish and Wildlife Coordination Act (16 USC. 661 et seq.)

The Fish and Wildlife Coordination Act (FWCA) requires that Reclamation consult with fish and wildlife agencies (federal and state) on all water development projects that could affect biological resources. The Proposed Action does not involve any new impoundment or diversion of waters, channel deepening, or other control or modification of a stream or body of water as described in the statute; therefore the FWCA does not apply.

### 4.1.2 Endangered Species Act (16 USC. 1531 et seq.)

Section 7 of this Act requires Federal agencies to ensure that all federally associated activities within the United States do not jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of the critical habitat of these species. Action agencies must consult with the Service, which maintains current lists of species that have been designated as threatened or endangered, to determine the potential impacts a project may have on protected species.

Reclamation determined that the Proposed Action would have no effect on federally proposed or listed threatened and endangered species or their proposed or designated critical habitat. No further consultation is required under Section 7 of the Endangered Species Act.

### 4.1.3 Migratory Bird Treaty Act (16 USC § 703 et seq.)

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior (Secretary) may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns. The Proposed Action will be located in an area that would not be utilized by migratory birds. If migratory birds were observed within the proposed project area, construction activities would halt and a biologist would be contacted.

### 4.1.4 National Historic Preservation Act (15 USC 470 et seq.)

The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation which outlines the Federal Government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal Government to take into consideration the effects of an undertaking listed on cultural resources on or eligible for inclusion in the National Register of Historic Places (National Register). Those resources that are on or eligible for inclusion on the National Register are referred to as historic properties.

### 4.1.5 Environmental Justice (Executive Order 12898)

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, as amended, directs federal agencies to develop an Environmental Justice Strategy that identifies and addresses disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations. According to the Council on Environmental Quality's guidance, agencies should consider the composition of the affected area to determine whether minority populations, low-income populations, or Indian Tribes are present in the area affected by the Proposed Action, and if so, where there may be disproportionately high and adverse environmental effects. The Proposed Action would support the Tribe by providing reliable water supply on the Reservation, and is thus beneficial to the Tribe.

# Section 5 List of Preparers and Reviewers

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# Section 6 References


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